protocols would likely be larger than the time saved by sending the data using the negotiated protocol rather than with the preselected protocol.

3.2.4 *Route Planning*

5   Route planning at the server system (line **1561**, FIG. **15B**) uses well known route finding approaches. In particular, two instances of the well-known A* ("A-Star") graph search algorithm are used in conjunction with road network **700** (FIG. 700). One instance of the A* algorithm

10   starts at the starting location and one starts "backwards" from the desired destination. The A* algorithm is a type of "best first" search approach. At any point executing the algorithm, the actual distance along the graph from an initial node to a set of

15   intermediate nodes has been computed. A lower bound (or in some versions of the algorithm, an estimate) of the distance from each of the intermediate nodes to the final node is added to the actual distance. The intermediate node with the lowest sum is extended. If the lower

20   bounds are used, this algorithm produces the shortest path from the initial node to the final node. Using the two instances of the A* algorithm, a best path is chosen after there are intermediate nodes in common for the two instances of the algorithm.

25   Alternatives to the A* route planning algorithms can be used. For instance, Dijstra's algorithm, or another type of best first algorithm can be used.

       Route planning can be based on a variety of criteria. A shortest total distance uses the actual link

30   distances in the road network to determine the cost of a path. The lower bound on the remaining path can be straight-line distance between an intermediate node and